society for social responsibility in science

SSRS Newsletter

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HIPPOCRATIC OATH FOR SCIENTISTS

British Humanist Group Pushes Pledge To Use Science for Constructive Ends Only; Bertrand Russell is First to Sign

A strong appeal to scientists, rging them to swear they will se their technological knowledge or constructive purposes only, as been made in England by Prof. yman Levy and published in the agazine *The Humanist* in its issue or September 1958. Levy has pre- ared a pledge in which the scien& ist says:

"I hereby solemnly declare that will use my scientific and tech- ological knowledge and my special xperience for the increase of uman welfare and for the deepening f human understanding, and will ot knowingly contribute towards uman destruction or human degra- ation."

The first signer was Bertrand ussell, who has been prodigiously ctive in recent years in a varied roup of activities opposing the rend toward a third World War.

A reproduction of the pledge ard signed by Bertrand Russell ill be found on page 4 of this ewsletter.

This British pledge is the latest n a series of similar proposals hich have been advanced in recent ears. Previous attempts have not et with high success. Within the SRS, there has been considerable discussion as to the advisability of sponsoring such a pledge. No conclusions were reached; many SSRS members have been strongly in favor of a public pledge, while others have opposed it. Opposition has frequently been based on the traditional Quaker refusal to take an oath of any kind.

In support of his pledge, Professor Levy provided a paper titled "An Appeal to Scientists" in which he argued strongly for the pledge and for the use of science for constructive purposes only, in a way of acting and behaving by scientists which is essentially the way proposed by the SSRS, and which he believes will be symbolized best by his pledge.

A summary of his paper follows.

After a general discussion of the social consequences of science, he comes to the special role of scientists.

Competitive groups of people in our world, armed with instruments of mass murder, are in a position to annihilate us all. And scientists are better prepared to appreciate this fact than any other section of society. Because of this, scientists have begun to recognize that they have a new responsibility in the present situation.

This responsibility is of two kinds, one expressing itself as the urge to warn their fellow-members of society of the terrible dangers made possible by modern science when used for human destruction. This, Levy says, must be stressed in order that citizens may use their powers to insist that their political leaders pay attention to the dangers and start to take steps to lead the world out of the suicidal and insane rush toward destruction.

The second kind of responsibility has to do not with civic education but with the actions of individual scientists. "How can we sensibly urge that our fellow men and women become conscious of the danger that threatens them if we ourselves play a direct part in creating the know-how for these devilish weapons? What type of ethic can possibly justify the piling-up of H-bombs on one scale of the balance while the moral judgment of mankind is being urged to weigh itself on the other at the same time? No scientific man, worth his salt as a human being, has any alternative but to assert here and now in public that he will have nothing to do, deliberately and consciously, with this lunacy. Of course there are difficult borderline cases. Science is, after all, an integrated totality in which every part is in some degree dependent on every other part; but practically every scientist knows to what his particular work is primarily directed."

LEVY'S CONCLUSIONS

Professor Levy concludes:

"A society that deliberately sets itself the task of creating the means for its own total destruction is of course mad. It is more than mad; it is consciously immoral. It sweeps all the values we have built up and enshrined in such words as kindness, mercy, and goodwill into the dustheap of history, and any man or woman who professes to believe in these virtues and at the same time is prepared to envisage a H-bomb war is not only a liar and hypocrite but a homicidal maniac. It is on these grounds that I beg every scientific man and woman, every technologist, every engineer, to swear that he will in

This Newsletter is published by the Society for Social Responsibility in Science, an organization of scientists and engineers whose purpose, according to its constitution, is "to foster throughout the world a functioning cooperative tradition of personal moral responsibility for the consequences for humanity of professional activity, with emphasis on constructive alternatives to militarism;...to embody in this tradition the principle that the individual must abstain from destructive work and devote himself to constructive work, drawing the line between the two according to his own moral judgment;...to ascertain through open and free discussion the boundary between constructive and destructive work to serve as a guide for individual and group discussion and action..."

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no circumstances consciously take part in the production and development of these instruments of mass destruction. If we and our children survive this epoch, the names of those who have had the courage to sign will go down to history as the minority that retained its sanity during a period of social madness."

EDITOR COMMENTS

In the same issue of *The Humanist*, the editor of that magazine commented, in an editorial titled "Ethics and Science", that if a relatively small number of scientists had refused on ethical grounds to work on the atomic bomb, there could have been no bomb. After mentioning the severe struggles of conscience by many scientists, and after discussing the case of Heisenberg, von Weizsäcker, Einstein, Russell, and others, the editor concluded by approving the idea of a scientist's pledge, summing up the case as follows:

"The discovery [fission] seemed too momentous to suppress. It would be obviously a tremendous responsibility for an individual to decide when the advance of science should be halted. On the other hand, it seems clear that the responsibility for actually applying the discovery to a weapon of war was equally great. Science itself is ethically neutral; but human beings are not. The final decision of how to act in such circumstances must be taken by the individual as the keeper of his own conscience. The affirmation that has been suggested at least serves the purpose of emphasizing that the choice is a moral one. It is a reminder that there are times in life when human dignity demands that we say, for whatever reason: 'Here I stand; I cannot do otherwise.'"

BOOK REVIEW

BRIGHTER THAN A THOUSAND SUNS: The Moral and Political History of the Atomic Scientists. By Robert Jungk. Harcourt, Brace; 1958. $5.00.

Reviewed by Herbert Jehle

The challenge to our generation is this: how can we find and carry through a constructive policy in which we live up to standards of integrity and justice, of love, concern and compassion for our fellow men? Policies based on a threatened holocaust of innocent millions of human beings including our own children are not only immoral; they are also highly unrealistic kinds of charlatanism. "The bomb has given us a few years of grace without war, and now it offers us a few milleniums of oblivion." (E. B. White)

If we are serious in our efforts to achieve a change of nuclear policy, we should first try to understand the events and circumstances of the decades in which this drama developed. These are the questions which the author of "Brighter Than a Thousand Suns" is trying to answer: what was the history of the development of nuclear weapons? What factors contributed to getting us into this most perilous era mankind ever has entered? What were the circumstances that caused the political thinking of honest scientists and other men to become confused or even corrupt?

Robert Jungk's book will have an impact. It can not tell many details of what was going on behind the Iron Curtain, because the Iron Curtain was not raised for such inquiries; although the book gives some broad outlines, and includes an account of Kapitza's refusal to build atom bombs after the end of World War II. But the book attempts a down-to-earth account of the developments connected with nuclear weapons both in the U.S., the allied European countries, and the axis countries.

The most disputed of Jungk s conclusions--his claim that leading German physicists in 1939-1941 deliberately stalled the development of German atomic bombs--has been checked and verified by personal investigation and inquiry by this reviewer.

It was in detail documented to this reviewer through K. F. Bonhoeffer and Max von Laue, that they and Hahn, Heisenberg, von Weizsaecker and Jensen actually did, (with some difference in motivation), do the best they could to prevent the attempt by Hitler's Germany to build atom bombs. They not only succeeded in this, but also risked their lives in an unsuccessful attempt to convince Niels Bohr in 1941 and 1942 (and through him, the Western physicists) of the lack of need to develop atomic weapons in the Allied world—the urgency of this development of the atom bomb by the Allies having been entirely based on the fear of atom bombs being constructed by Nazi Germany.

Needless to say, there were many shades of resistance against scientific help to the Nazi war effort. It may have to be kept in mind that the technical possibility of development of a German atomic bomb during World War II was quite out of the question. So for German physicists there was not so much of a temptation to try to develop an atom bomb. On the other hand, there were many Nazis, particularly among German rocket and other technicians (not in the U.S. and the U.S.S.R.) who regarded any resistance, particularly

that practiced by the above quoted scientists, with great distrust or as plain treason.

Jungk records the aspects of the German uranium project with fair accuracy. But he fails to make clear the vast difference between the moral problem of supplying Nazi tyrants, and that of defending a decent world. He records the hesitations and bad concessions to expediency on the part of Heisenberg which no doubt prevented him from convincing Bohr of his sincere intentions.

Most of the book reports the events in the lives and thoughts of those who developed the atom bomb and the H-bomb. The issues raised in these chapters are compelling, and it is good that we are confronted with them. The fate of mankind is likely to depend on whether or not we face squarely the moral issues involved in the nuclear threat, or whether we wrap ourselves in a cloak of self-deception and proceed to talk about control of nuclear warfare in our usual unrealistic mechanistic manner.

The author of course reports the controversy about the American H-bomb decisions. He quotes the October 1949 statement of the Advisory Council of the AEC, composed of nine prominent scientists:

"We all hope that by one means or another the development of these weapons can be avoided. We are all reluctant to see the U.S. take the initiative in precipitating this development. We are all agreed that it would be wrong at the present time to commit ourselves to an all-out effort towards its development. In determining not to proceed to develop the superbomb we see a unique opportunity of providing by example some limitation on the totality of war and thus eliminating the fear and arousing the hope of mankind."

That was the majority report. The minority, Fermi and Rabi, had even stronger moral objections against development of the Super. Less than two years later, after a change in the political climate and after Teller had presented a new idea concerning the construction of H-bombs, a two-day discussion about H-bombs ensued and all scientists present became enthusiastic. Jungk asks why there is no longer any trace of the ethical doubts so forcibly expressed in the above-quoted report of the General Advisory committee. He quotes Oppenheimer:

"It is my judgment on these things that when you see something that is technically sweet you go ahead and do it, and you argue about what to do about it only after you have had your technical success... I cannot very well imagine if we had known in late 1949 what we got to know by early 1951 that the tone df our report would have been the same."

Jungk goes on:

"This remarkable admission perhaps explains why the twentieth century Faust allows himself, in his obsession with success and despite occasional twinges of conscience, to be persuaded into signing the pact with the Devil that confronts him: he finds what is 'technically sweet' nothing less than irresistible."

Probably the most significant reviews written about this book in the U.S. are those of Dr. H. A. Bethe in the *Bulletin of the Atomic Scientists*, Dr. R. R. Wilson in the *Scientific American*, and Dr. E. U. Condon in *Science*.

Bethe corrects Jungk by pointing out that, though for some scientists Oppenheimer's statement may have been true, the main argument at the occasion of that meeting was that the H-bomb had now become inevitable, and that the scientists felt with General Omar Bradley that it would be intolerable to have this weapon in the hands of the Russians but not in our own.

This seems to the present reviewer to point up the essential issue. The decision to build the H-bomb was made by most scientists and political leaders after an honest search in what they understood to be the best decision.

But was it wise? And was it right, measured on deeper standards of right and wrong?

Was it wise to lose any reasonable chance to control nuclear weapons by international agreement, and was it wise to lose world public opinion by being both first in dropping bombs and first in intensifying nuclear weapons development? Was it wise to rely on a delicate balance of terror?

And was it right by any standards of morality? Why do we allow the exigencies of a nuclear arms race to become the standards by which "reasonable decisions" are to be measured? How can we blindfold ourselves to what these weapons do to innocents and children, as we read John Hersey, Takashi Nagai or Michihiko Hachiya? And how can we be deaf to the intimate connection which our own weapons research has with that suffering?

This book would be far less fascinating and remarkable than it is, if it were not for the hundreds of personal anecdotes and vivid details of the negotiations, which Jungk has done an almost impossible job by unearthing. However, many deplorable errors have occurred, the severest ones being those in which some persons' weaknesses are dwelt upon in questionable taste, with some others almost emerging as angels by comparison, thus creating highly misleading impressions. This is certain to cause bitterness, of the kind already expressed by William Laurence in the *New York Times* and by Mike Amrine in the *Newsletter* of the Federation of American Scientists; it will seriously detract from the wide reconsideration of the moral issues in nuclear arms research, which publication of Jungk's book might otherwise bring.

For the book should be a challenge to the individual conscience, not only confronting us with the moral implications of our professional activities, but much more so confronting us with the problem of corrupt institutions: the armaments race, and power politics based on the threat of war.

Franklin Miller, Jr.
Gambier, Ohio

Please send me full information on membership in the Society for Social Responsibility in Science, and the procedure to be followed by those wishing to become members. I understand that returning this coupon places me under no obligation.

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At the right is a facsimile of the pledge signed by Bertrand Russell that he would not participate in any destructive uses of science. (See article on page 1).

Immediately below the pledge is a picture taken at the Brussels World's Fair in 1958. It is from the exhibit of India and shows Nehru's pledge that, as far as India is concerned, atomic science is for peaceful uses only.

The letter below, written by an SSRS member, was published in the Chicago Tribune on November 10, 1958.

I, Bertrand Russell

Graduate M.A. Cambridge University
Diplomate ..... College
Member ..... Institute
Fellow ..... Royal Society

hereby solemnly declare that I will use my scientific and technological knowledge and my special experience for the increase of human welfare and for the deepening of human understanding, and will not knowingly contribute towards human destruction or human degradation.

Signed Russell

Address Plas Penrhyn Penrhyndeudraeth

Date 20.7.58

When signed, please send to: THE HUMANIST ASSOCIATION, 40 DRURY LANE, LONDON, W.C.2

for filing and registration. The Association undertakes to respect anyone's request not to disclose his name.

LETTERS

AVOIDING A NUCLEAR WAR

Chicago, Nov. 6—The future existence of mankind may well depend upon the outcome of the conference at Geneva. If the representatives of the U. S. A. the U. S. S. R., and the U. K. successfully negotiate an agreement for the permanent cessation of the explosion of nuclear bombs, mankind may have crossed the threshold to a glorious future. If they fail, it may be the beginning of the end of human existence on earth.

These are not idle words. The bomb tests conducted thus far have ruined or will ruin the lives of thousands of people. If the bomb testing is allowed to continue and spread to more and more nations, the number of lives ruined will be in the millions. The bombs now in stockpile are sufficient to destroy the principal cities of the earth.

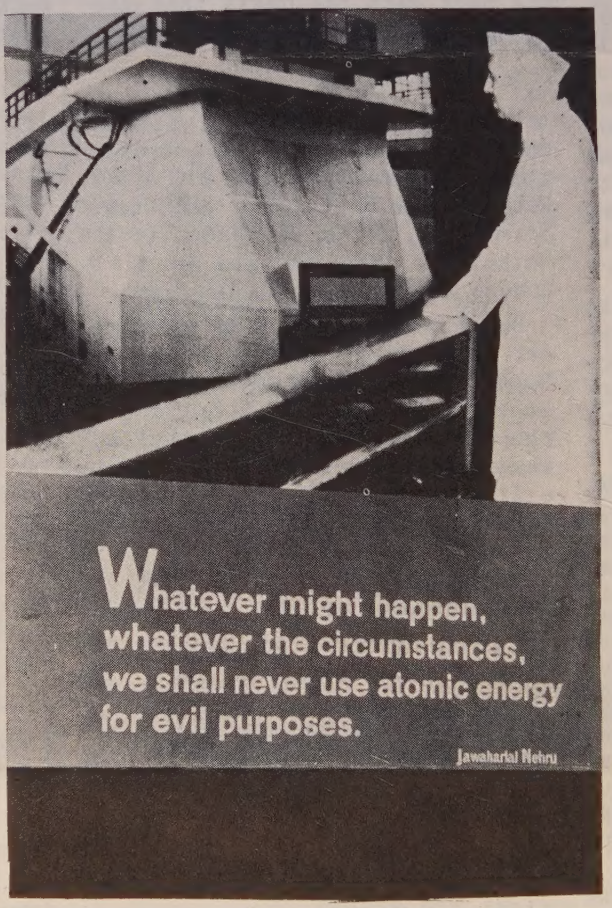
But that is not all. Once the bombs had been exploded, the earth's atmosphere would continue to be poisoned with dangerous radioactive materials for a great number of years. There is no nuclear bomb, "clean" or "dirty," which does not produce these radioactive contaminants of the atmosphere. There is no assurance that any local war can be prevented from growing into a nuclear war. A world nuclear war could start accidentally by the misinterpretation of a radar screen, the poor judgment of a military man with his hand on a push-button, or the chance explosion of a giant meteor. Any such nuclear war would end human life as we know it.

Is there no defense against such a catastrophe? The answer is "yes." But the defense does not lie in scientific gadgets or military weapons. It lies in the development of mutual trust and good will among the peoples and nations of the earth. The men at Geneva have the opportunity and the duty to initiate such a development.

If they will negotiate in good faith, without trying to get ahead of the other side, and with a sincere, persistent, patient determination to accomplish what is best and what is right for all the people of the world, without regard to national groups, they can eliminate the plague of bomb explosions and take a long step toward the development of world brotherhood.

FORREST F. CLEVELAND
Professor of physics, Illinois Institute of Technology

(Continued on column 3, this page)



EMPLOYMENT

SITUATIONS OPEN

PHYSICIST—for full-time instructorship or assistant professorship at Wilmington College, Wilmington, Ohio. Ph.D. or near Ph.D. preferred. Address W. Brooke Morgan, Jr., Acting President.

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Gambier, Ohio

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